

WHAT IS CLAIMED IS:

1. An isolated polynucleotide comprising:
 - a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2;
 - b) a nucleotide sequence encoding a polypeptide comprising amino acid residues 72-93, 147-162, 191-211 OR 217-238 of SEQ ID NO:2;
 - c) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:4;
 - d) a nucleotide sequence encoding a polypeptide comprising amino acid residues 55-76, 132-150, 177-199 or 213-234 of SEQ ID NO:4;
 - e) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:6;
 - f) a nucleotide sequence encoding a polypeptide comprising amino acid residues 47-68, 123-138, 167-187 or 193-214 of SEQ ID NO:6;
 - g) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:8;
 - h) a nucleotide sequence encoding a polypeptide comprising amino acid residues 46-67, 122-140, 166-187 or 194-213 of SEQ ID NO:8;
 - i) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:9;
 - j) a nucleotide sequence encoding a polypeptide comprising amino acid residues 77-98, 153-167, 197-217 or 223-242 of SEQ ID NO:9;
 - k) nucleotides 232-1599, 445-513, 670-717, 802-864 or 880-945 of the nucleotide sequence of SEQ ID NO:1;

- 1) nucleotides 83-1669, 245-310, 476-532, 611-679
or 719-784 of the nucleotide sequence of SEQ
ID NO:3;
- 5 m) nucleotides 247-1530, 385-450, 613-660, 745-
807 or 823-888 of the nucleotide sequence of
SEQ ID NO:5; or
- n) nucleotides 205-1599, 340-395, 568-624, 700-
765 or 784-843 of the nucleotide sequence of
SEQ ID NO:7.

10 2. An isolated polynucleotide which hybridizes to the
complement of the polynucleotide of Claim 1 under stringent
hybridization conditions.

3. An isolated polynucleotide which comprises the
complement of the polynucleotide of Claim 1.

15 4. A vector comprising the isolated polynucleotide of
Claim 1 or 2.

5. An expression vector comprising the isolated
polynucleotide of Claim 1 or 2.

20 6. A host cell genetically engineered to contain the
polynucleotide of Claim 1 or 2.

7. A host cell genetically engineered to contain the
polynucleotide of Claim 1 or 2 in operative association with
25 a regulatory sequence that controls expression of the
polynucleotide in the host cell.

8. An isolated polypeptide comprising:

a) the amino acid sequence of SEQ ID NO:2;

30 b) amino acid residues 72-93, 147-162, 191-211 OR
217-238 of SEQ ID NO:2;

c) the amino acid sequence of SEQ ID NO:4;

d) amino acid residues 55-76, 132-150, 177-199 or
213-234 of SEQ ID NO:4;

- e) the amino acid sequence of SEQ ID NO:6;
- f) amino acid residues 47-68, 123-138, 167-187 or 193-214 of SEQ ID NO:6;
- g) the amino acid sequence of SEQ ID NO:8;
- 5 h) amino acid residues 46-67, 122-140, 166-187 or 194-213 of SEQ ID NO:8;
- i) the amino acid sequence of SEQ ID NO:9; or
- j) amino acid residues 77-98, 153-167, 197-217 or 223-242 of SEQ ID NO:9;

10 9. A composition comprising the polypeptide of Claim 8 and a carrier.

10. An antibody directed against the polypeptide of Claim 8.

15 11. A method for detecting a polynucleotide of Claim 1 or 2 in a sample, comprising:

- a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide for a period sufficient to form the complex; and
- 20 b) detecting the complex, so that if a complex is detected, a polynucleotide of Claim 1 or 2 is detected.

12. A method for detecting a polynucleotide of Claim 1 or 2 in a sample, comprising:

- 25 a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to a polynucleotide of Claim 1 or 2 under such conditions; and
- b) amplifying the annealed polynucleotides, so that if a polynucleotide is amplified, a polynucleotide of
- 30 Claim 1 or 2 is detected.

13. The method of Claim 12, wherein the polynucleotide is an RNA molecule that encodes a polypeptide of Claim 8, and

the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.

14. A method for detecting a polypeptide of Claim 8 in
5 a sample, comprising:

- a) contacting the sample with a compound that binds to and forms a complex with the polypeptide for a period sufficient to form the complex; and
 - c) detecting the complex,
- 10 so that if a complex is detected, a polypeptide of Claim 8 is detected.

15. A method for identifying a compound that binds to a polypeptide of Claim 8, comprising:

- a) contacting a compound with a polypeptide of Claim 8 for a time sufficient to form a polypeptide/compound complex; and
 - b) detecting the complex,
- so that if a polypeptide/compound complex is detected, a compound that binds to a polypeptide of Claim 8 is identified.

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16. A method for identifying a compound that binds to a polypeptide of Claim 8, comprising:

- a) contacting a compound with a polypeptide of Claim 8, in a cell, for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and
- b) detecting the complex by detecting reporter gene sequence expression,

25 so that if a polypeptide/compound complex is detected, a compound that binds to a polypeptide of Claim 8 is
30 identified.

17. A method of modulating activity of a polypeptide of Claim 8, comprising contacting a cell that expresses the

polypeptide with a compound that modulates activity of the
polypeptide for a time sufficient to modulate said activity.

18. A method of modulating activity of the polypeptide
5 of Claim 8, comprising contacting the polypeptide with a
compound that modulates activity of the polypeptide for a
time sufficient to modulate said activity.

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